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## ABSTRACT

Today's students, with their exposure to a great variety of media, tend to prefer a learning experience characterized by: (1) considerable variety in learning methods; (2) a choice among alternatives as well as some feedback; and (3) quick-moving, active involvement that requires only a short span of concentration. A library science course in principles of materials selection was designed to fulfill these three learning requirements. The method used was an adaptation of the American Society for Information Science 1975 poster sessions; it consisted of a number of simultaneous informal student presentations using graphs, diagrams, data, pictures, and a small amount of text. The class was divided into teams that took turns making presentations and being active participants. In informal evaluations the participants indicated that there was more active learning taking place in this interactive, informal atmosphere than in traditional lecture textbook courses. An additional advantage was seen in the students' opportunity to use and improve communication skills they would need when working in libraries. (LS)

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Learning Styles Today: Implications for Graduate  
Library Education  
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In what ways does the increased voluntary and involuntary exposure of today's students to audiovisual media affect their preferences in learning styles? Educational psychologists would make a substantial contribution to the development of learning methods by assessing effects on students of frequent exposure to the quick pace of audiovisual media and by formulating an empirically validated learning theory model that takes into account the resultant learning requirements of today's students. This paper identifies and briefly comments on three hypothesized required factors derived from my own classroom experience over the past two years. These factors might well find a place in a learning theory model that would elucidate the effects of exposure to audiovisual media on mental sets for learning. They are: (1) the desire for considerable variety in learning methods; (2) the importance of being able to choose among alternatives and to provide feedback; and (3) a preference for quick-moving, active involvement that requires only a short attention span of concentration. The paper then reviews one learning method with which I experimented in the Principles of Materials Selection course in the graduate School of Library Science, Emporia Kansas State College. As will be seen, it is one method that can be modified for possible use in a few units in many

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library science courses of preferably thirty or more students. It fulfills the above hypothesized requirements.

The first factor, the increasingly expressed desire for considerable variety in learning methods, possibly carried over from the variety customarily expected in mass audiovisual media offerings, poses two problems. One problem is the danger that a professor may plan variety for its own sake within a course and then seek objectives to accommodate them. This would have a tail-wags-dog effect that could weaken course objectives. The question of how much variety per se is required needs further study.

Another problem related to the desire for variety in learning methods is more serious: lack of preparation for optimum use of each learning method on the part of students and perhaps professors as well. Coupled with this is the lack of lead time in a course to master the method, in addition to the time needed for summarizing each unit in a way to be sure that maximum benefits are obtained. A statement from the "Narrative Evaluation Report on the Institute for Advanced Study for Librarians," School of Librarianship, University of Washington, 1975, epitomizes the problem (p. 28): "The stress was of course on experiential learning -- and it certainly took place. This evaluator wishes to express her concern about the lack of preparation for this methodology and the lack of discussion of theory behind certain exercises." The idea of deliberately and explicitly preparing faculty and students to utilize particular methods appears to be largely unfamiliar to graduate library education

but one worth experimentation. Optimum discussion group size is a special problem. One library school commonly utilizes group discussion with as many as forty or more students. Another library school director once commented that a professor should not attempt discussion with over ten students.

The second factor, the importance of being able to choose among alternatives and to provide feedback, bears on the definite conceptions of librarianship roles that students wish to find represented among the avenues in the course open to them. The contention here is that the possibility of selecting audiovisual media among alternatives and the great sensitivity of producers to audience reaction may create an expectation that carries over to learning situations and intensifies desire for choice. This is true in spite of the fact that mass audiovisual communication is essentially a one-way process, traditionally sender-initiated rather than receiver-initiated.

There have probably always been students who prefer to hear only about the particular type of library in which they are presently interested, a problem when objectives in beginning, required courses aim to familiarize students with all types of libraries. There have also probably always been those who limit their outlook by holding their thinking to a pragmatic atmosphere of poverty, so that if their future library, as they envisage it, will not likely have funds for certain materials or services, they do not want to learn about them. However, recent campus activity, including expressed concerns of my own students, to obtain greater choice in learning styles and to evaluate course

content and procedures indicates that this factor has become more widespread.

Harold D. Lasswell provides perspective from behavioral science, which discipline needs to be further incorporated into learning theory ("Structure et fonction de la communication dans la société," Balle, Francis and Jean G. Padioleau, Sociologie de l'information; textes fondamentaux, Paris: Librairie Larousse, 1973, p. 38):

A côté des facteurs de compétence, le niveau d'efficacité est quelquefois affecté par la structure de la personnalité. Une personne optimiste et extravertie peut sélectionner les faits qui légitiment ses traits de caractère et acquérir une vision incorrecte et exagérément optimiste des événements. Au contraire, des personnes pessimistes et portées à ruminer chaque fait sélectionnent des caractéristiques assez différentes qui viennent une fois encore confirmer leurs craintes. Il existe aussi des différences importantes entre les personnes, liées à leurs différences d'intelligence et d'énergie.

Receiver-initiated learning presents a dilemma for professional education: the student may do well what he wants to do, but what assurance do his future patrons have that what the student chooses will be most valuable in serving them? In an article that engages in the kind of theory building called for by this paper, Klaus Krippendorff predicts that modern communication technologies will reinforce receiver-initiated processes ("Principles of Information Storage and Retrieval in Society," General Systems, Vol. XX, 1975, p. 34):

The teacher decides on the topics to be presented in class and the student is expected to absorb and to conform. Examinations provide the feedback information about how 'well' the student has performed.

The interest in information retrieval processes forces the communication researcher at least to consider another communication paradigm in which the dominant direction is

turned around. I call this 'receiver initiated communication.' Here the emphasis is placed not on a sender's attempt to induce changes in the receiver, but on the receiver's active search for information that would improve his own position or facilitate self modification. It begins with the communications about needed information or with a request to an information source, which then returns the information wanted....

In sender initiated communication, the information about the effects succeeds the transmission of information. In receiver initiated communication, the information about the information needs precedes the transmission of information relative to the information that is transmitted; in either case, both the feedback about effects and the requests for information are metacommunicative in character....

The development of modern communication technologies goes in this direction; for example, communication using Community cable television has at least a higher potential of being receiver initiated than the traditional mass media have been. And reforms in education, whether through the use of individually operated teaching machines or through social reforms, have had the effect of weakening the authoritarian teacher-student relationship by making the teacher into something more like a consultant or a resource person who facilitates a self directed process of student learning. Perhaps, one spinoff of the concern with social memory is that such communication processes may become theoretically tractable, and the consequent liberalization may indeed be speeded up.

The importance to students of being able to provide feedback also carries with it potential problems. For example, student feedback may include inaccurate and misleading information. Again, the need to place the evaluation process within theoretical frameworks offered by behavioral science and educational psychology is apparent. The following statement from the "Narrative Evaluation Report" cited above exemplifies the understandings needed for properly interpreting evaluations (p. 33): "The second conclusion is that evaluations for the OE Institute entered the process at the 'low-point' of the process -- at that point when participant reactions were going down, reaching a low. This pattern of a 'u-curve' of adjustment to the seminar situation is well documented in change literature." When evalua-



tive feedback is anonymous, there is no way to reach the student with needed help, particularly the student who writes, "No learning at all took place in this course," although the other evaluations in general attest very positively to course benefits.

A further problem in student feedback is that their activity in providing it may shift attention from or possibly blunt their abilities to engage effectively in the difficult yet important task of ongoing self-evaluation. Throughout one semester in a Current Trends course, I experimented with student feedback to other students. Teams of students made three presentations of their choice during the course in a panel format and received written, signed evaluations from most other class members who had elected to prepare these throughout the term. Almost without exception, students received highly critical evaluations in a negative way to the effect that the team members bored the class with dry lectures, yet the same students who wrote the evaluations proceeded to do the same when it was their chance to be a team member, and they in turn received the same negative evaluations. Near the end of the term, I confronted the class with this phenomenon and asked whether they could explain it. No discussion on the matter was forthcoming, however, other than that they shared my bafflement.

The third factor, a preference for quick-moving, active involvement that requires only a short attention span of concentration, may result from the constant succession of disparate, sometimes flashing, elements characteristic of mass audiovisual

media, as described by Edgar Morin ("Nouveaux courants dans l'étude des communications de masse," In Balle and Padioleau, cited above, pp. 101-102): "Par opposition à la culture classique, l'écran de la 'culture moderne' est en mosaïque (c'est-à-dire résultant d'un conglomerat aléatoire d'éléments disparates); ceci est dû non seulement à la prolifération buissonnante des connaissances dans tous les domaines, mais aussi à la nature même de ses canaux, les mass media, qui transmettent des flux de messages non hiérarchisés, dont chaque récepteur tire des éléments par essais et erreurs." The aspect of "active involvement" may be an unconscious effort to imitate the activity in audiovisual media, or there may be another social factor that learning theorists might identify to account for it.

The factor of quick-moving active involvement came to my attention in several ways over the past two years. I will recount only the principal one here. In three courses that I conducted largely in a lab format in which students had a great deal of freedom to direct their own learning activities, observation on my part revealed that the students automatically formed themselves into groups of two or three and proceeded quickly from one type of example to the next in an independent fashion. The pace was constantly so fast that I questioned them as to whether they felt they were learning as they should. Their replies were in the affirmative, and praise for the course was consistently high. My observation also revealed that their steady conversations among themselves in the very small groups included penetrating insights into the work that one would ex-



pect from librarians on the job.

The advantage for the student of the likelihood of later being able to adjust easily to the fast-moving pace of many library positions is partially offset by certain drawbacks. For example, the desire for closure, or immediacy, in learning is inconsistent with one of the major characteristics commonly associated with the creative individual so greatly needed at this time in the library profession to utilize technology in imaginative ways to reach all types of users and potential users: the ability to sustain inquiry over a period of uncertainty and to tolerate adversity.

Another drawback is that the perseverance required in the current activity of reading and applying sometimes difficult interdisciplinary material to librarianship may overly try the patience of students who want solutions to come more quickly. One wonders whether reading with concentration, in general, for any period of time will become impossible for the student to endure. The many questions I receive during office hours whose answers are quoted to students from handout material I have given them in class, and which answers have satisfied their questions, prompted me to inquire near the end of the term in one class of eleven students as to whether it had been their practice to read the handouts with any degree of thoroughness. All except one young woman from South Vietnam said they did not and that this applied to their other courses as well. I was particularly concerned by the willingness of three students out of twelve in another class to argue strongly and at some length

against a book that was required reading but which they finally admitted they had not read, as the nature of their objections indicated. Perhaps students will need to be provided with written material similar to that utilized in the Institute cited above (p. 16): "Every experience was supported by careful selection of the most recent significant data from the behavioral sciences skillfully integrated and clearly interpreted. This is borne out by the impressive set of 14 'mini-lecture notes' ranging from 4 to 8 pages in length which were supplied as take-home materials. In these each member of the team capsulized supportive data for us. These draw from a careful selection of the most significant literature in the behavioral and library sciences that applies to the theme of the conference."

Learning modules that utilize a varied choice of well synchronized, quickly-paced multimedia products that incorporate a high level of student involvement would likely draw favorable student reactions by satisfying the three factors discussed above. Perhaps the most fundamental questions with which those who attempt to update learning theory and library school professors must grapple are (1) Should the result of drawing favorable student reactions be the ultimate goal of education for the professions? and (2) How can standards expected by the students' future patrons be incorporated when learning theory is put into practice in the library science program?

The teaching method mentioned above with which I experimented the first summer session, 1975, in Principles of Materials Selection will now be described. It fulfills the three hypo-

thetical learning requirements of today's students. The overall course objective was as follows: the identification, in an introductory overview, of principles, methods, and practices of collection establishment and development. The method consisted of an adaptation of the ASIS-75 Poster Sessions explained in "Poster Sessions at ASIS-75: A Better Way to Communicate," Bulletin of the American Society for Information Science, Vol. I, January 1975, p. 28: "A poster session consists of a number of simultaneous informal presentations. A news note in Science (June 28, 1974, p. 1361) ... described the concept concisely: 'One large meeting room (or more) is filled with bulletin boards on which the participants place graphs, diagrams, data, pictures, and a small amount of text to illustrate the main points of their presentation.'"

The experiment in adapting this method for classroom use was presented to the students the first meeting as a model with carry-over value of how new procedures are responsibly introduced in libraries to effect change. This emphasis was especially appropriate at this time when networking developments require major changes in policies and procedures in all types of libraries. The method was tried together with the students, not on them. The students and I monitored the effectiveness of the method through formal and informal means. Needed adjustments were made accordingly. Although the experiment deliberately excluded formal research design, the usual limitation of formal research, the Hawthorne effect, was not avoided, as a number of students expressed great delight in simply being allowed

to try something new. The method is predicated on extensive guidance outside of class to students, individually and in groups, to help them prepare their presentations. Ample office hours must also be provided and a significant amount of preparation time set aside in advance of the term to create the detailed syllabus required. The adaptation of the ASIS-75 Poster Sessions to classroom use took the following format which may seem complex but is simple once the overall plan is grasped.

Visualize four classrooms, each room with four students who had each been assigned an aspect of a question, problem or topic designed to stimulate critical thinking in terms of library goals in collection building with a built-in cumulative effect to give the course conceptual unity. Approximately 250 aspects of 62 questions in all were treated. Not all teams came out even in number. A few had three or five members. Each student made a presentation for five minutes by utilizing appropriate supportive visual display (posters, handouts, selection aids, etc.) in the manner he considered most effective for fulfilling his objectives. The time allotted to each presentation would have preferably been somewhat longer to accommodate more extensive interaction. The short time did force the students, however, to isolate major points only which brought focus to the introductory survey course. The presentations were made in close physical proximity to a group of four students who interacted with those presenting by bringing out points in discussion and asking questions. This latter group was called the participation group to emphasize that they were not to be passive hearers who uncritically accepted all they heard. All

groups were assigned at random in order to mix type of library interest and subject backgrounds. Name tags were worn the first week. After twenty minutes, the participation group circulated to the next room on the schedule. Each participation group was given a schedule that applied throughout the course and included what time to circulate and the rooms to which they should report.

At the first meeting, the class was divided into halves with each half divided into teams. The "first half" teams constituted the presentation groups on Monday and Wednesday and became participation groups on Tuesday and Thursday. The class did not meet on Friday. Conversely, the "second half" teams constituted the presentation groups on Tuesday and Thursday and became participation groups on Monday and Wednesday. Each team presented, then, four times each class period, once for each participant group. After the first round of presentations, however, each presenting student was free to circulate to any other room while his team members made their presentations, so long as he was on hand to make his own presentation. Most groups rotated the sequence of presentations so that each team member had a turn to present first so that he could then circulate.

I regarded the multiple presentations as a disadvantage and asked the students whether they would prefer to make their presentations self-explanatory to a high degree and reduce the number of oral interpretations to participant groups. Only one student in both sections felt that multiple presentation detracted from her learning and took advantage of the option to cir-

culate after making one presentation. The others felt, as one student expressed it, "You should hear my fourth presentation. It's quite different from the first!" She explained that as participant groups made comments on her ideas, she experienced growth in insight toward her topic. At times, further evidence from other practicing librarians strengthened her original views. At other times, reaction caused her to change or modify an idea.

This adaptation of the ASIS-75 Poster Sessions to classroom use fulfills the three hypothesized criteria listed earlier in the paper: (1) The criterion of the desire for considerable variety in learning methods is satisfied by limiting use of the method for one or two particular purposes in a course. I did not utilize other methods because the summer session of five weeks, excluding Fridays, two days for introduction, and one day for a field trip, allowed just enough lead time for both students and myself to give the method a fair trial and gain sufficient skill to modify and utilize it on future occasions in briefer runs. The various approaches that students take in providing supportive visual display to fulfill the objectives of their assignments provide variety, however.

(2) The criterion of the importance of being able to choose among alternatives and to provide feedback is met by the options students have in designing visual evidence in support and summary of ideas presented and in the built-in ongoing monitoring deliberately planned to insure the method's effective functioning. Creation of the questions themselves by the professor met with no objection from the students, for they felt need of this



guidance.

(3) The criterion of a preference for quick-moving, active involvement that requires only a short attention span of concentration is particularly well achieved through the short presentations and the peripatetic structure by which students changed physical location several times during each period. Yet they also said that the format created a more relaxed learning environment. Active involvement on the part of the students was cited by students as a major strength of the method. Five students not in the course commented to me independently, as one phrased it, "That must be a good course - they always seem to be doing something and they're enjoying it." The individual presentations that drew the most highly favorable spontaneous comment in my office after class were those that required students to handle items and manipulate the display in some way to obtain solutions or that built in a high degree of interaction from participants.

Evaluation of the method with the students yielded the following generally held conclusions: the format was more informative than lectures from the professor would have been because students who were practicing librarians, as many were, found the opportunity to exchange ideas with other practicing librarians invaluable. Inexperienced students tended not to see the experienced students as a threat to the extent that they have in my other courses. Guidance provided by the professor to individuals and groups outside class time was seen as a more appropriate vehicle for input from the professor. It should be noted

that there existed unusual insight on the part of the students into the nature of the library profession that necessitates development of judgment that must often be based on an inadequate body of proven facts. The students constructively identified the many gaps in the profession's body of knowledge relative to selection and collection development.

The small group size was considered responsible for the depth of ideas gained in the discussions that were noted to be characterized by an unusually high level of relevance and authenticity. At one point, two groups experimentally banded together to hear a presentation, but they abandoned the idea because they felt that the size of the participant group interfered with the interactive activity. The high quality of the discussion was also attributed to the fact that the visual displays facilitated provision of evidence toward drawing conclusions and the identification of perspectives and interrelationships.

Other benefits of the interactive processes were noted. Exchanging ideas with students interested in various types of libraries was regarded as an advantage in view of the increasing amount of cooperative activity among libraries of all types, either in actuality or in the planning stages. Students appreciated benefits derived from the self-actualization encouraged by the method. Special interests and backgrounds were appropriately exploited. One student commented five months later that he could now see that he learned even more from the course than he thought he had at the time.

One final reaction was that the method interpenetrates interpersonal relations with subject content in a way that simulates skills in behavioral interaction required in job performance. On the other hand, it somewhat radically exposes the very few students who lack these skills and shy away from exchange with others. Students obtained insights about small group activity that will be useful in library staff and patron groups. In a few instances, presentation groups noted a marked difference between one participant group and the next, beyond what they thought could be explained by their own performance. A few presentation groups did not meld together as well as the others. Some students stated that they were consciously aware of and acted upon their opportunity to stimulate other students to take more effective stances and attitudes toward their part as learners by serving as positive examples. Students also found it easier to criticize others and take criticism of their ideas without offense because they saw the exchanges as taking place in a meaningful, supportive context that fostered mutual respect. There was a marked absence of competitiveness among the students.

A disadvantage of the method, more apparent than real, is that the professor cannot be in all four rooms simultaneously but must circulate as do the students. He hears all presentations each day but only the interactions of the participant group with which he circulates. There was rarely need to make corrective comments, however, and students infrequently directed a question to me. Advance preparation with a number of stu-

dents, especially those most in need of help, as well as students' preference of hearing from practicing librarians were undoubtedly responsible. I checked all rooms each shift to see that participant groups had arrived and spotchecked that they remained the full time allotted. Only one student in both sessions totaling about sixty students was twice found at the coffee area instead of in her proper location.

Most important, the integrity of motivation that the students demonstrated behaviorally in their sense of responsibility toward future users and nonusers alike indicated that there does not necessarily have to be a conflict between assurance to future clientele of promised superior performance and highly favorable student reactions to a method that satisfies the currently preferred learning styles hypothesized here, as perhaps determined by increased exposure to audiovisual media.